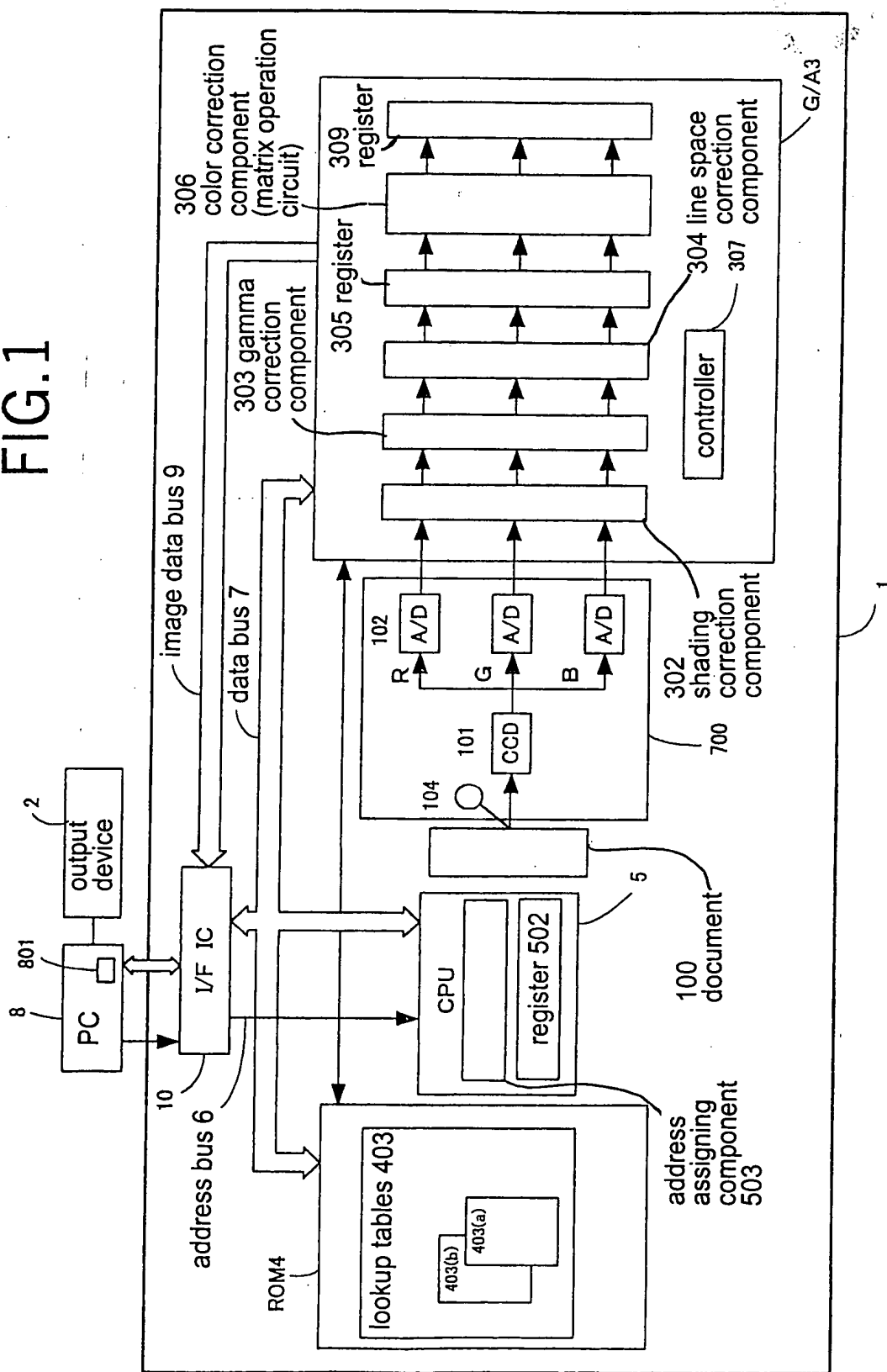


FIG.1



lookup tables 403

monotone lookup table 403(b)

| matrix   | memory | address             |
|--|--------|---------------------|
| A 1  | R 1    | K <sub>11</sub> 0H  |
|  |        | K <sub>21</sub> 1H  |
|  |        | K <sub>31</sub> 2H  |
| $\begin{pmatrix} K_{11} & K_{12} & K_{13} \\ K_{21} & K_{22} & K_{23} \\ K_{31} & K_{32} & K_{33} \end{pmatrix}$ | G 1    | K <sub>12</sub> 3H  |
|  |        | K <sub>22</sub> 4H  |
|  |        | K <sub>32</sub> 5H  |
|  | B 1    | K <sub>13</sub> 6H  |
|  |        | K <sub>23</sub> 7H  |
|  |        | K <sub>33</sub> 8H  |
| A 2  | R 1    | N <sub>11</sub> AH  |
|  |        | N <sub>21</sub> BH  |
|  |        | N <sub>31</sub> CH  |
| $\begin{pmatrix} N_{11} & N_{12} & N_{13} \\ N_{21} & N_{22} & N_{23} \\ N_{31} & N_{32} & N_{33} \end{pmatrix}$ | G 1    | N <sub>12</sub> DH  |
|  |        | N <sub>22</sub> EH  |
|  |        | N <sub>32</sub> FH  |
|  | B 1    | N <sub>13</sub> 10H |
|  |        | N <sub>23</sub> .   |
|  |        | N <sub>33</sub> .   |
| .  | .      | .                   |

| matrix | memory | address             |
|--------|--------|---------------------|
| Y 1    | R 1    | N <sub>11</sub> 0 H |
|        |        | N <sub>21</sub> 1 H |
|        |        | N <sub>31</sub> 2 H |
|        | G 1    | N <sub>12</sub> 3 H |
|        |        | N <sub>22</sub> 4 H |
|        |        | N <sub>32</sub> 5 H |
|        | B 1    | N <sub>13</sub> 6 H |
|        |        | N <sub>23</sub> 7 H |
| Y 2    | R 2    | N <sub>33</sub> 8 H |
|        |        | .                   |
|        |        | .                   |
|        |        | .                   |
|        |        | .                   |

FIG.3

register 502

| memory  | matrix |                        | address |
|---|--------|------------------------|---------|
| $A1 \begin{pmatrix} K_{11} & K_{12} & K_{13} \\ K_{21} & K_{22} & K_{23} \\ K_{31} & K_{32} & K_{33} \end{pmatrix}$<br>$\begin{pmatrix} A1 \\ \begin{pmatrix} K_{11} & K_{12} & K_{13} \\ K_{31} & K_{32} & K_{33} \\ K_{21} & K_{22} & K_{23} \end{pmatrix} \end{pmatrix}$ | R 1    | $K_{11}$<br>$(K_{11})$ | 0 H     |
|   |        | $K_{21}$<br>$(K_{31})$ | 1 H     |
|   |        | $K_{31}$<br>$(K_{21})$ | 2 H     |
|   | G 1    | $K_{11}$<br>$(K_{11})$ | 3 H     |
|   |        | $K_{21}$<br>$(K_{32})$ | 4 H     |
|   |        | $K_{32}$<br>$(K_{22})$ | 5 H     |
|   | B 1    | $K_{13}$<br>$(K_{13})$ | 6 H     |
|   |        | $K_{23}$<br>$(K_{33})$ | 7 H     |
|   |        | $K_{33}$<br>$(K_{23})$ | 8 H     |

FIG.4

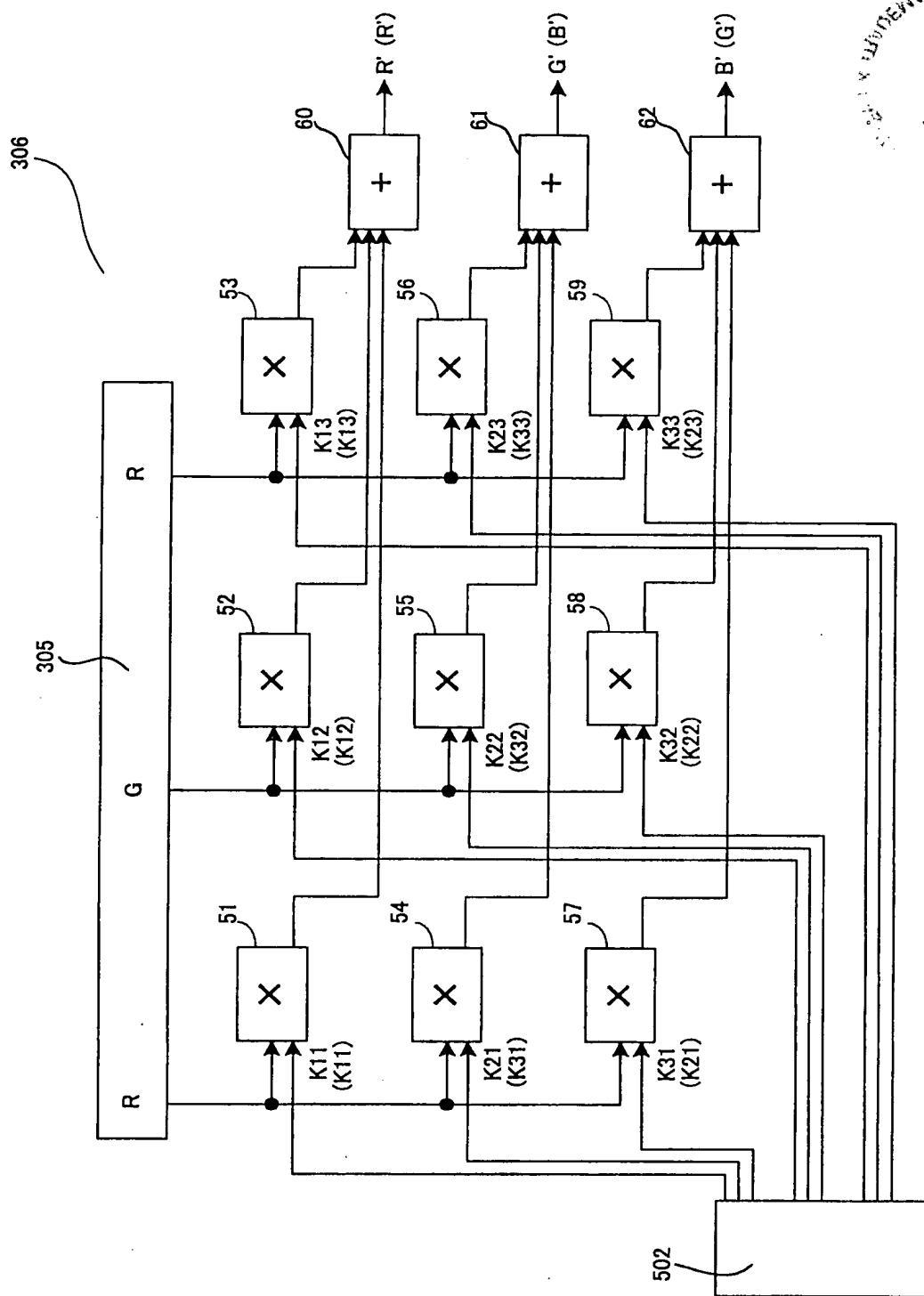


FIG.5

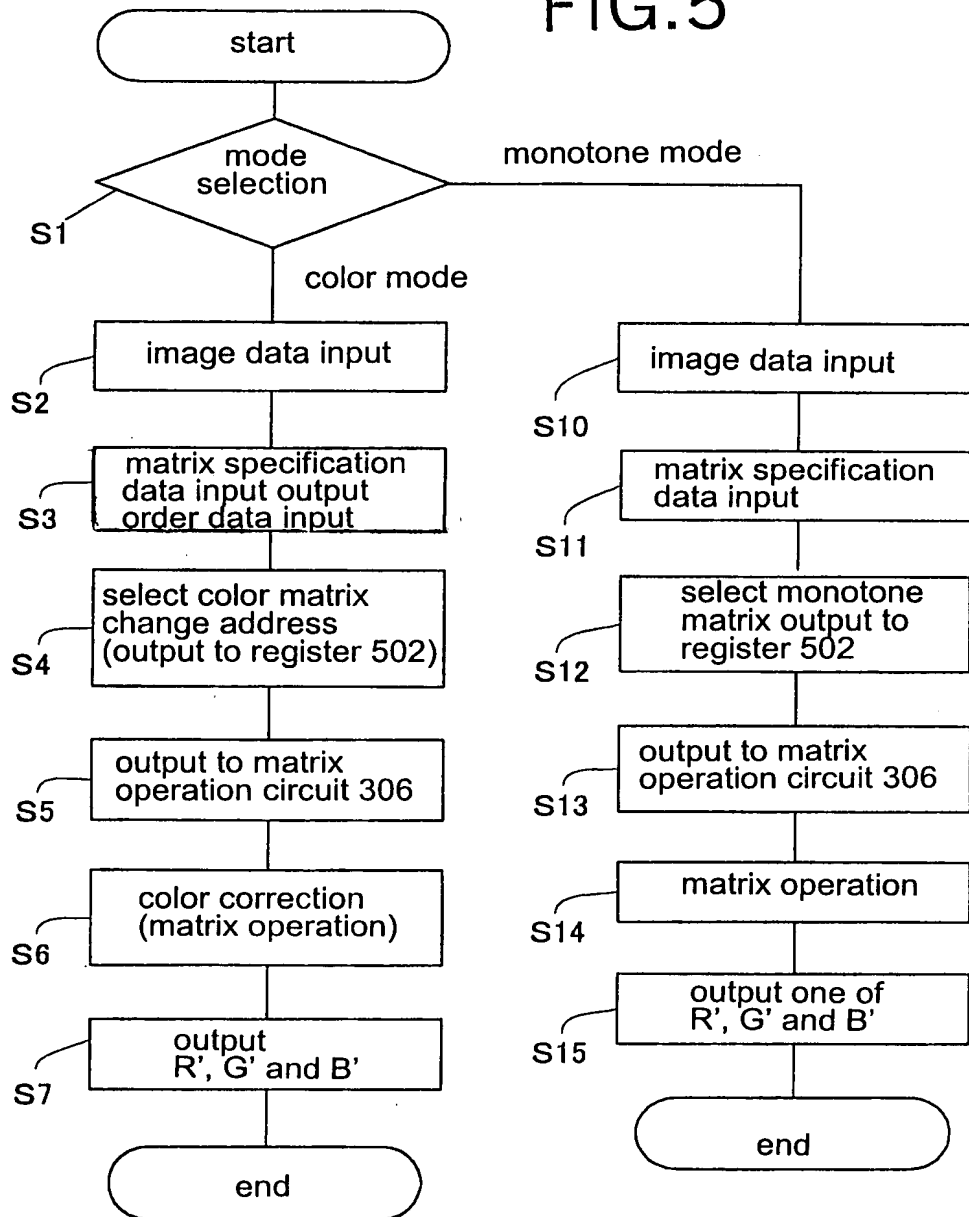
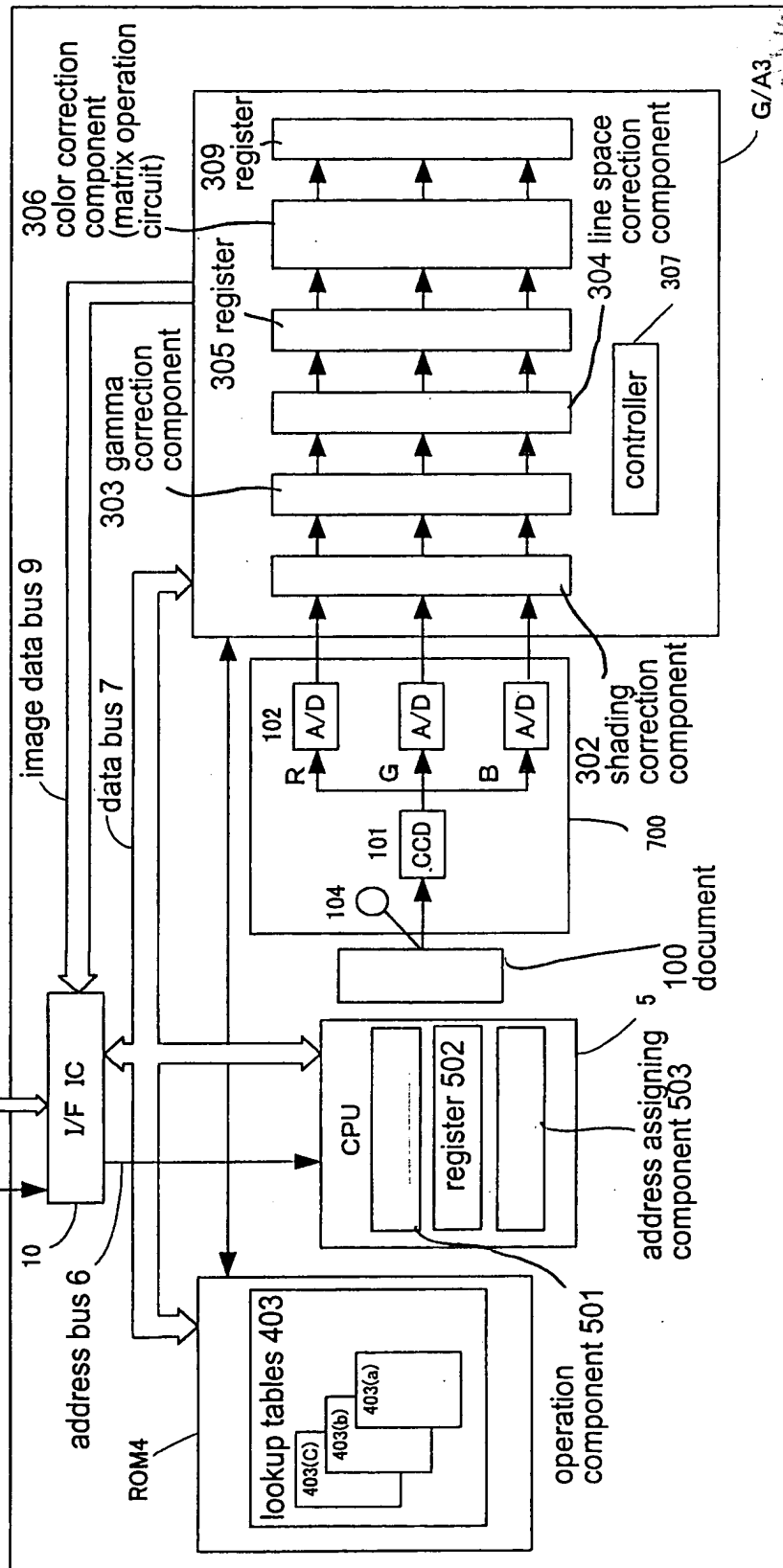


FIG. 1 is a block diagram of a computer system. It includes a central processing unit (CPU) 801, a memory unit 8, and an output device 2. The CPU 801 is connected to the memory unit 8, which is in turn connected to the output device 2.



# FIG.7

## lookup tables 403

### color correction lookup table 403(a)

| matrix | memory | address            |
|--------|--------|--------------------|
| A 1    | R 1    | K <sub>11</sub> 0H |
|        |        | K <sub>21</sub> 1H |
|        |        | K <sub>31</sub> 2H |
|        | G 1    | K <sub>12</sub> 3H |
|        |        | K <sub>22</sub> 4H |
|        |        | K <sub>32</sub> 5H |
|        | B 1    | K <sub>13</sub> 6H |
|        |        | K <sub>23</sub> 7H |
|        |        | K <sub>33</sub> 8H |
| A 2    | R 2    | .                  |
|        |        | .                  |
|        |        | .                  |
|        |        | .                  |

### output order lookup table 403(b)

| matrix | memory | address |
|--------|--------|---------|
| V 1    | R 1    | 1 0H    |
|        |        | 0 1H    |
|        |        | 0 2H    |
|        | G 1    | 0 3H    |
|        |        | 1 4H    |
|        |        | 0 5H    |
|        | B 1    | 0 6H    |
|        |        | 1 7H    |
|        |        | 0 8H    |
| V 2    | R 2    | 1 AH    |
|        |        | 0 BH    |
|        |        | .       |
|        |        | .       |

### monotone lookup table 403(c)

| matrix | memory | address            |
|--------|--------|--------------------|
| Y 1    | R 1    | N <sub>11</sub> 0H |
|        |        | N <sub>21</sub> 1H |
|        |        | N <sub>31</sub> 2H |
|        | G 1    | N <sub>12</sub> 3H |
|        |        | N <sub>22</sub> 4H |
|        |        | N <sub>32</sub> 5H |
|        | B 1    | N <sub>13</sub> 6H |
|        |        | N <sub>23</sub> 7H |
|        |        | N <sub>33</sub> 8H |
| Y 2    | R 2    | .                  |
|        |        | .                  |
|        |        | .                  |
|        |        | .                  |

FIG.8A

$$\begin{matrix} & V1 \\ \begin{pmatrix} R \\ G \\ B \end{pmatrix} &= \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} R \\ G \\ B \end{pmatrix} \end{matrix}$$

FIG.8B

$$\begin{matrix} & V2 \\ \begin{pmatrix} R \\ B \\ G \end{pmatrix} &= \begin{pmatrix} 1 & 0 & 0 \\ 0 & 0 & 1 \\ 0 & 1 & 0 \end{pmatrix} \begin{pmatrix} R \\ G \\ B \end{pmatrix} \end{matrix}$$

FIG.8C

$$\begin{matrix} & V3 \\ \begin{pmatrix} G \\ R \\ B \end{pmatrix} &= \begin{pmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} R \\ G \\ B \end{pmatrix} \end{matrix}$$

FIG.8D

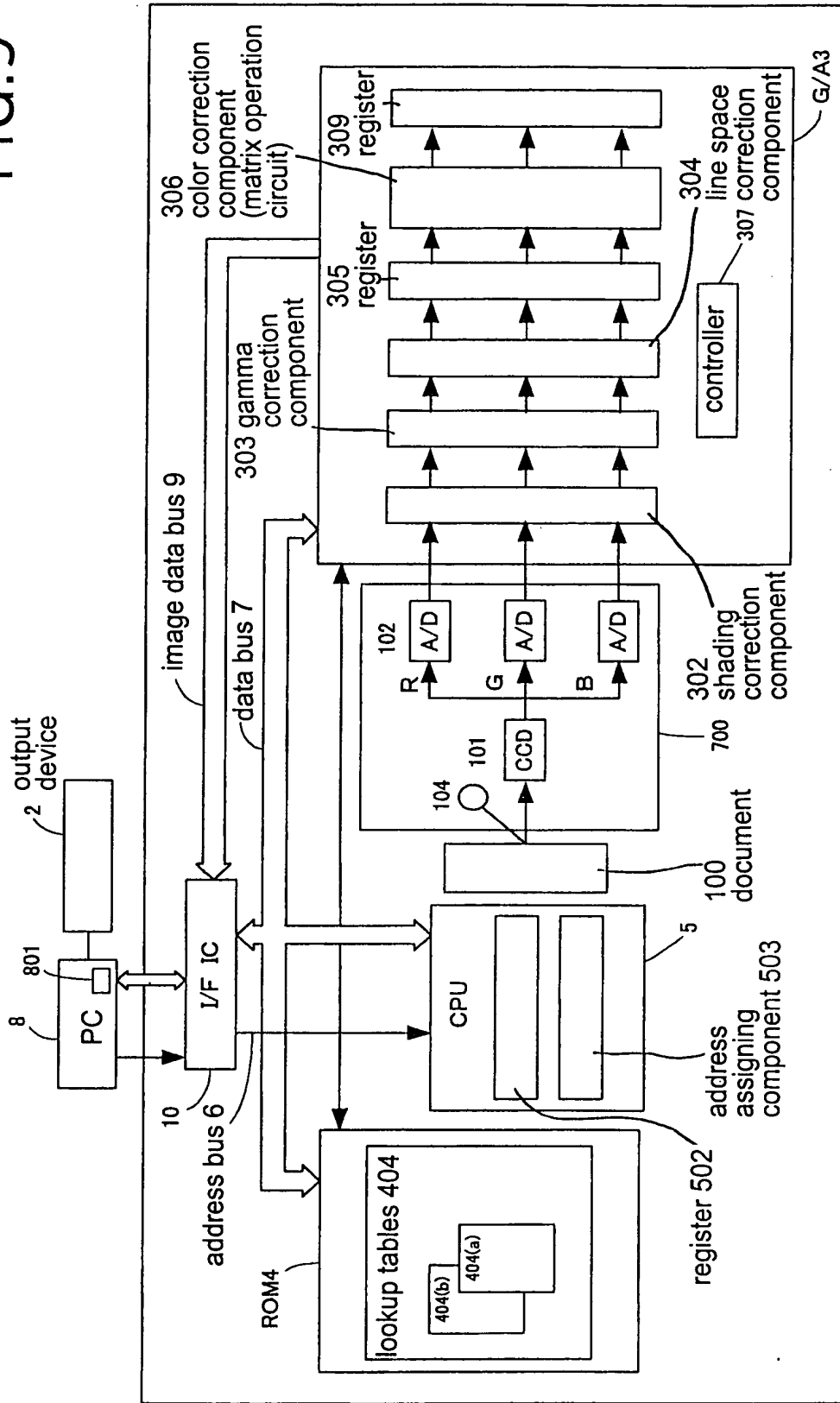
$$\begin{matrix} & V4 \\ \begin{pmatrix} G \\ B \\ R \end{pmatrix} &= \begin{pmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ 1 & 0 & 0 \end{pmatrix} \begin{pmatrix} R \\ G \\ B \end{pmatrix} \end{matrix}$$



FIG. 8F

$$\begin{bmatrix} B \\ R \\ G \end{bmatrix} = \begin{bmatrix} 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix}$$

FIG. 9



# FIG.10

## lookup tables 404

### combined matrix C (color mode) lookup table 404(a)

| matrix | memory | address             |
|--------|--------|---------------------|
| C 1    | R 1    | K <sub>11</sub> 0 H |
|        |        | K <sub>21</sub> 1 H |
|        |        | K <sub>31</sub> 2 H |
|        | G 1    | K <sub>12</sub> 3 H |
|        |        | K <sub>22</sub> 4 H |
|        |        | K <sub>32</sub> 5 H |
|        | B 1    | K <sub>13</sub> 6 H |
|        |        | K <sub>23</sub> 7 H |
|        |        | K <sub>33</sub> 8 H |
| C 2    | R 2    | .                   |
|        | .      | .                   |
|        | .      | .                   |
|        | .      | .                   |

### combined matrix D (monotone mode) lookup table 404(b)

| matrix | memory | address             |
|--------|--------|---------------------|
| D 1    | R 1    | M <sub>11</sub> 0 H |
|        |        | M <sub>21</sub> 1 H |
|        |        | M <sub>31</sub> 2 H |
|        | G 1    | M <sub>12</sub> 3 H |
|        |        | M <sub>22</sub> 4 H |
|        |        | M <sub>32</sub> 5 H |
|        | B 1    | M <sub>13</sub> 6 H |
|        |        | M <sub>23</sub> 7 H |
|        |        | M <sub>33</sub> 8 H |
| D 2    | R 2    | .                   |
|        | .      | .                   |
|        | .      | .                   |
|        | .      | .                   |

# PRIOR ART FIG.11

